ECOLOGY AND ENVIRONMENT, INC.

DALLAS, TEXAS

MEMORANDUM

x-Ref SA Vol #1

To: Ed Sierra, Region VI RPO

Thru: K. H. Malone, Jr., FITOM

From: Michael Watson, FIT Chemist

Date: January 20, 1989

Subj: Preliminary Assessment for Texas and Northern Lone Star Warehouse Company, Lone Star, Morris County, TX (TXD981158249)
TDD #F06-811-30
PAN #FTX0816PAA

1. Site Information

Texas and Northern Lone Star Warehouse Company stores and processes steel pipe and tubing. The facility is registered with the Texas Water Commission as a generator, storer and disposer of hazardous waste. It occupies a large area in Morris County, which is bounded by FM250 on the eastern perimeter and a 1.5 mile stretch of Rock Springs Road (also Cass 2975) on its western boundary. The southern boundary is unknown (Figure 1). T & N is listed as the owner of only 16.4 acres in the northern portion of the site. The rest of the site is listed as belonging to Lone Star Steel, T & N's parent company and past owner. On January 5, 1989, a public announcement was made over the Morris County local airways that Lone Star Steel had now divided itself into seven independent corporations, three of which were new. As a result, the current ownership of T & N is unknown.

T & N is located in the drainage area of the Cawhorn Creek Basin, Latitude 32°57'14"N, Longitude 94°39'20"W, three miles northeast of the town of Lone Star in Morris County. Lone Star has a population of 2,023 and uses water from the Lake of the Pines for domestic, industrial and irrigation purposes (Reference 1). There are records of wells in the area (Reference 2; Reference 3). Most, if not all, are considered to be inactive or abandoned at this time.

Lone Star Steel has been in operation since 1942 (Reference 4; Reference 5), but the date of Texas and Northern's creation is unknown. There are at least three Solid Waste Management Units (SWMUs) at T & N: an above-ground tank for the storage of heavy equipment, locomotive and vehicle oils, a container storage area for waste solvent (a waste thread lubricant), and a facility landfill (Reference 6). T & N generates used oils, metals, and spent solvents. T & N has manually disposed of an unknown quantity of waste solvent into the landfill. The number of

times that this has occurred is also unknown. The solvent, a waste thread lubricant, contains lead and zinc. The wastes generated and managed by T & N are flammable and toxic.

2. Background/Operating History

The acreage utilized by T & N has been the site of extensive strip mining operations for iron ore. Erosion, where unchecked by the planting of pine trees, has been extensive (Photographs 4 through 7).

Texas and Northern's current layout, including the actual perimeter of the property, the location and number of the SWMUs, and the actual threat from the on-site SWMUs cannot be determined from an off-site reconnaissance inspection. T & N is an active epee yard (SIC 3495), secured by a 24-hour guard station and an eight foot barbed wired, chain-like fence. All of the possible entry points to T & N are guarded or labeled and secured with chain and locks. Unauthorized entry is not possible.

Potential problems exist due to the low pH of the ground water. The ground water from the upper layers of the Cypress Springs aquifer is known to have corroded the plumbing of the local residences when it was used as supply of drinking water (Reference 2). Surface water also assumes an acidic pH shortly after contact with the overlying humus. Either could bring undissolved metals into solution and allow migration via available water pathways.

Existing analytical data show the plant's soils to be stained with random deposits of lead and zinc (Reference 7). Chromium of up to ten times the level allowed in the drinking water standards has been discovered by TWC in samples taken from two of the monitoring wells located around the landfill (Reference 8). TWC's analytical data shows that problems exist, but the extent of the problems is not identified.

An off-site reconnaissance inspection indicated that there is cooperation between Texas and Northern and the Mount Pleasant Soil Conservation Office. The dense growth of pine trees has checked soil erosion on the southern perimeter of the site. The effect caused by a lack of vegetation is evident on the northern portion of the site (Photographs 4 through 7).

TWC files list a remedial action against T & N for violations of the Texas Solid Waste Disposal Act and the regulations of the TWC. The penalty levied against T & N on September 10, 1986 was a $5,420 fine (Reference 9).

3. Waste Containment/Hazardous Substance Identification

There is not much data available to characterize the quantity or to identify the type of waste either in the landfill or on-site. A failure to maintain disposal records was one of the reasons that T & N was fined in September 1986. TWC's on-site inspection provides the only available data. Lead and zinc were discovered in soil grab samples but that is the extent of the analysis. The source of these metals is the corrosion

inhibiting lacquer from the steel pipe that T & N stores and processes. Chromium was discovered in water samples taken from two of T & N's four monitoring wells. The analysis was of limited extent. The origin of the chromium can only be surmised to be the ore tailings.

A spring arose on the south end of the landfill. T & N dug a trench to allow the spring water to escape (Reference 6). The landfill has no containment system.

4. Pathway Characteristics

a. Air Pathways

The organic solvent which contained the lead and zinc contaminants is assumed to have an oil of low volatility. The soil around T & N is of a reddish-yellow granular type. Air pathways are not considered to be of concern.

b. Ground Water Characteristics

The ground water of the area is attributed to the Cypress Springs aquifer. The aquifer is considered to be composed of three layers or zones which are interconnected hydraulically and function as a single unit. The upper layer is of a low pH (5 to 6) and contains iron in solution. The middle layer is less acidic, but still contains iron. The lower layer (500-625 feet) is neutral and has given up its iron content. This layer is suitable for drinking purposes.

Specific geological conditions are shown in Table 1.

With a normal annual precipitation of 46 inches and water table of less than 60 feet (Reference 2; Reference 3), contamination of the ground water is a possibility.

c. Surface Water Characteristics

The surface water flow off-site would be into the Cawhorn Creek Basin. The migration of contaminants would then follow an easterly route for fifteen downstream miles into Cass County. There are no drinking water intakes (Reference 1), recreational usage (Topographic Composite), or potential food chain impacts along this route. With a two year, 24-hour rainfall of 4.6 inches and a low flood potential, the concern of hazards from the migration of dissolved metals and contaminants is of low priority.

d. On-Site Pathways

The on-site exposure pathway is not evaluated because the site is of a size which does not allow data gathering by way of an off-site visual inspection.

5. Targets

There are no known ground water wells in use within four miles of the site (Reference 1). The municipal water source for the City of Lone Star is the Lake of the Pines, located five miles southwest, and away from the Cawhorn Creek Basin, the off-site drainage pathway. There are no drinking water intakes along the 15-mile surface water migration path from the site. There are no known recreational uses of this intermittent creek. The population within four miles of the site (air targets) is 4,276, including the residents of Huges Springs and Lone Star. The nearest single family residence is located 100 feet from the site boundary (Reference 10). The area is the home of Trillium Texanum, an endangered plant species that grows in seepage areas and a plant community composed of the water oak and the willow oak (Reference 12). Daingerfield State Park is four miles northeast of the site.

6. Other Regulatory Involvement

There is no other known regulatory involvement concerning Texas & Northern. EPA conducted a PA Reassessment for Lone Star Steel. The site's location was Latitude 32°55'20"N, Longitude 94°42'57"W, 2.5 miles southeast of Lone Star, Texas.

7. Conclusions and Recommendations

An unknown quantity of toxic metals has been placed in a landfill on-site. The type, number and location of other possible on-site SWMUs is unknown. There are residences within 100 feet of the plant's boundary, but this is not of concern because the low mobility potential of the known site contaminants make the probability of release to the air pathway low. There are no ground water targets and there is little use of the surface water along the migration pathway.

The FIT recommends that this site receive no further action.

8. FIT Management Review/Concurrence

9. EPA Recommendation for Further Action

Contact Log

Facility Name: Texas and Northern Lone Star Warehouse Company
Facility ID: FTX0816PAA

To	Dorinda Sullivan	Texas Parks & Wildlife	(512) 387-4992	12-29-88	Submit maps
From	Dorinda Sullivan	Texas Parks & Wildlife	(512) 387-4992	01-06-89	Endangered Species Cass & Morris Counties
		TWC	(512) 463-7830	12-20-88	Location of People Assoc. w/ T & N File
To	Michael Morris	TWC	(512) 463-7761	12-30-88	Located
From	Michael Morris	TWC	(512) 463-7761	12-30-88	Returned Call
To	Michael Morris	TWC	(512) 463-7761	01-03-89	2nd Attemp
From	Michael Morris	TWC	(512) 463-7761	01-03-89	Received Large Amt. of information about T & N
To	Kieth Anderson	TWC	(214) 595-546	12-30-89	Request for Hydraulic Conductivity Data
From	Kieth Anderson	TWC	(214) 595-5466	12-30-89	Returned Call
From	Kieth Anderson	TWC	(214) 595-5466	01-03-89	Received a # of Ref.
To	Ronda Hall	Morris County Tax Assessment	(214) 645-2446	01-10-89	No Contact
To	Ronda Hall	Morris County	(214) 645-2446	01-10-89	Will send map w/ T & N overlay